

3/4.9 REFUELING OPERATIONS

BORON CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.9.1 The boron concentration of the Reactor Coolant System, the fuel storage pool, the refueling canal, and the refueling cavity shall be maintained within the limit specified in the CORE OPERATING LIMITS REPORT (COLR).

APPLICABILITY: MODE 6 (Only applicable to the refueling canal, the fuel storage pool and refueling cavity when connected to the Reactor Coolant System)

ACTION:

With the requirements of the above specification not satisfied, immediately

- a. Suspend CORE ALTERATIONS and
- b. Suspend positive reactivity additions and
- c. Initiate action to restore boron concentration to within limit specified in the COLR.
- d. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.1 Verify the boron concentration is within the limit of the COLR in accordance with the Surveillance Frequency Control Program.

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UNBORATED WATER SOURCE ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.9.2.1 Each valve used to isolate unborated water sources shall be secured in the closed position.

APPLICABILITY: MODE 6.

ACTION:

-----NOTE-----
Separate entry is allowed for each unborated water source isolation valve.

With one or more valves not secured in closed position:

- a. Immediately suspend CORE ALTERATIONS, and initiate actions to secure valve in closed position.

and

- b. Within 4 hours perform Surveillance Requirement 4.9.1

SURVEILLANCE REQUIREMENTS

4.9.2.1 Verify each valve that isolates unborated water sources is secured in the closed position in accordance with the Surveillance Frequency Control Program.

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3/4.9.2 INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.9.2.2 Two source range neutron flux monitors shall be OPERABLE.

APPLICABILITY: MODE 6.

ACTION:

- a. With one of the above required monitors inoperable, immediately suspend all operations involving CORE ALTERATIONS or positive reactivity additions.
- b. With both of the required monitors inoperable; immediately suspend all operations involving CORE ALTERATIONS, positive reactivity additions, and initiate action to restore one source range monitor to OPERABLE status; and perform Surveillance Requirement 4.9.1 once per 12 hours.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.2.2 Each source range neutron flux monitor shall be demonstrated OPERABLE by performance of:

- a. A CHANNEL CHECK in accordance with the Surveillance Frequency Control Program, and

-----NOTE-----
Neutron detectors are excluded from CHANNEL CALIBRATION

- b. A CHANNEL CALIBRATION in accordance with the Surveillance Frequency Control Program.

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CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

- a. The equipment hatch inside door is capable of being closed and held in place by a minimum of four bolts, or an equivalent closure device installed and capable of being closed,
- b. A minimum of one door in each airlock is capable of being closed
- c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:
 1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or
 2. capable of being closed by the Containment Purge and Pressure-Vacuum Relief Isolation System.

Note: Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.

APPLICABILITY: During movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving movement of irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.4.1 Each of the above required containment building penetrations shall be determined to be either in its required condition or capable of being closed by a manual or automatic containment isolation valve in accordance with the Surveillance Frequency Control Program.

4.9.4.2 Once per refueling prior to the start of movement of irradiated fuel assemblies within the containment building, verify the capability to close, within 1 hour, the equipment hatch inside door or an equivalent closure device. Applicable only when the equipment hatch is open during movement of irradiated fuel in the containment building.

4.9.4.3 Verify, in accordance with the Surveillance Frequency Control Program, each required containment purge isolation valve actuates to the isolation position on a manual actuation signal.

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3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

ALL WATER LEVELS

LIMITING CONDITION FOR OPERATION

3.9.8.1 At least one residual heat removal loop shall be in operation.

APPLICABILITY: MODE 6.

ACTION:

- a. With less than one residual heat removal loop in operation, except as provided in b. below, suspend all operations involving an increase in the reactor decay heat load or a reduction in boron concentration of the Reactor Coolant System. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours.
- b. The residual heat removal loop may be removed from operation for up to 1 hour per 8 hour period during the performance of CORE ALTERATIONS in the vicinity of the reactor pressure vessel hot legs.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.8.1 In accordance with the Surveillance Frequency Control Program one RHR loop shall be verified in operation and circulating coolant at a flow rate of:

- a. greater than or equal to 1000 gpm, and
- b. sufficient to maintain the RCS temperature at less than or equal to 140°F.

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LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.8.2 Two independent Residual Heat Removal (RHR) loops shall be OPERABLE.*

APPLICABILITY: MODE 6 when water level above the top of the reactor pressure vessel flange is less than 23 feet.

ACTION:

- a. With less than the required RHR loops operable, immediately initiate corrective action to return the required RHR loops to OPERABLE status as soon as possible.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.8.2 The required Residual Heat Removal loops shall be determined OPERABLE per the INSERVICE TESTING PROGRAM.

* Systems supporting RHR loop operability may be excepted as follows:

- a. The normal or emergency power source may be inoperable.

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3/4.9.10 WATER LEVEL - REACTOR VESSEL

LIMITING CONDITION FOR OPERATION

3.9.10 At least 23 feet of water shall be maintained over the top of the reactor pressure vessel flange.

APPLICABILITY: During movement of fuel assemblies or control rods within the reactor pressure vessel when either the fuel assemblies being moved or the fuel assemblies seated within the reactor pressure vessel are irradiated.

ACTION:

With the requirements of the above specification not satisfied, suspend all operations involving movement of fuel assemblies or control rods within the pressure vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.10 The water level shall be determined to be at least its minimum required depth within 2 hours prior to the start of and in accordance with the Surveillance Frequency Control Program thereafter during movements of fuel assemblies or control rods.

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3/4.9.11 STORAGE POOL WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.11 At least 23 feet of water shall be maintained over the top of irradiated fuel assemblies seated in the storage racks.

APPLICABILITY: Whenever irradiated fuel assemblies are in the storage pool.

ACTION:

With the requirements of the specification not satisfied, suspend all movement of fuel assemblies and crane operations with loads in the fuel storage areas and restore water level to within its limit within 4 hours. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.11 The water level in the storage pool shall be determined to be at least its minimum required depth in accordance with the Surveillance Frequency Control Program when irradiated fuel assemblies are in the fuel storage pool.

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